Peebles (J. F.) Dr. T. C. Dunn Newport

FISKE FUND PRIZE ESSAY.

ON DISPLACEMENTS

OF THE

NON-GRAVID UTERUS;

THEIR

LOCAL AND CONSTITUTIONAL EFFECTS.

BY

J. F. PEEBLES, M. D.,

OF PETERSBURG, VIRGINIA.

Published by Request of the Rhode Island Medical Society.

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Varieties.—All malpositions of the uterus may be classified under two general heads—

First. Displacement without deviation from the normal direction of the organ with regard to the natural course of the vaginal outlet.

Second. Displacement accompanied by deviation of the natural axis of the organ with regard to the normal course of the vaginal outlet.

Obviously, in the first, displacement can occur only in one way, viz. : in the course of the vaginal curve downwards and forwards, constituting prolapsus in its various degrees. In the second class, the deviation may take place in different directions, and may also occur under different conditions of the organ. This renders it necessary to subdivide this class into two distinct varieties. In the first of these the organ is simply turned away from the natural direction of its long diameter, and this constitutes *version*. In the second, its configuration

[1] The Trustees of the Fiske Fund, at the annual meeting of the Rhode Island Medical Society, held at Providence, on the 21st of June, 1852, announced that they had awarded to the author of the dissertation, bearing the motto "*Audi alteram partem*," the premium of fifty dollars, offered by them for the best dissertation on the following, viz.: "*Displacements of the Uterus; their Local and Constitutional Effects, and best Modes of Treatment.*"

Upon breaking the seal of the accompanying packet, they ascertained the author to be J. F. Peebles, M. D., of Petersburg, Virginia.

HIRAM ALLEN, M. D.,
WILLIAM A. SHAW, M. D.,
JOSEPH MAURAN, M. D.,
Trustees.

TO AUG. ARNOLD, M. D.,
Secretary ~~R. I. Med. Soc.~~

is altered at the same time, it being curved like a retort, and this constitutes *flexion*. The second class of uterine displacements, including both version and flexion are described as occurring mainly in two directions, anteriorly and posteriorly, and are known as anteversion, retroversion, anteflexion, and retroflexion.

The consideration of the whole subject will be comprised in three divisions: 1st. The natural history, diagnosis, and local symptoms of the different forms of displacement. 2d. The general symptoms, or constitutional effects, common to all forms of uterine displacement. 3d. The treatment.

Prolapsus.

This is by far the most common form of uterine displacement. Good descriptions of the disease are to be found amongst the writings of the early fathers of medicine. The prevalence of the malady has not decreased with the progress of civilization; on the contrary, it is believed by most writers to have increased in our day.

It cannot be said to be confined to any particular class of women. In its effects, however, there is a marked variation according to the class of its victims. In the labouring woman it scarcely ever induces other than local suffering; whilst in the refined and luxurious it is almost always attended by that train of obstinate and severe constitutional symptoms, which we shall hereafter detail, as being the result of uterine displacement. Nor can it be referred to women of any particular age or condition in life, as it regards virginity, matrimony, or childbearing. It is true that childbearing women are most liable to it, and, particularly at that period of life included between the time of marriage and the cessation of the catameniæ, the childbearing period. Yet virgins, and very young girls occasionally, have prolapsus. It is doubted whether the disease can occur before the menstrual period except as a malformation, or as the result of pelvic or abdominal disease acting mechanically; since the organ is developed in the abdominal cavity, having to descend with the fœtal growth, and does not reach its position and assume its pyriform shape until about the age of puberty. For somewhat similar reasons it is not likely to be developed, as an independent affection, in old women. It exists often in such, but always as a chronic complaint, having an origin in early life. In the aged, the womb returns to an approximation of its primitive shape. It becomes cylindrical, diminishes in volume, and increases in density, whilst the vagina contracts and loses all its elasticity.

Thin women, and those of the lymphatic temperament, are thought by many writers to be the most liable to it. I have seen many obstinate cases in short fat women of sanguineous temperament. The truth is, it may happen to all women between the periods of life just stated. This is easily seen when we reflect how slight is the support of the organ, and how numerous are the accidents, from both within and without, which tend to produce prolapsus.

Nature of Prolapsus.—Descent of the womb may be partial or complete. Both the symptoms and the treatment of prolapsus uteri being somewhat modified by the stage of the organ's descent, it has been found expedient and necessary by authors to describe it as existing in three varieties.

The term prolapsus is employed by writers to signify that the falling of the womb has not extended beyond the os externum. When it protrudes beyond that orifice, the term procidentia is used. Retaining these general terms in that signification, we shall prefer to describe the displacement in the first, second, and third degrees.

In the first degree, the normal axis of the womb, with regard to the superior pelvic strait being maintained, the organ descends through the middle of the vagina downwards until its cervix rests on the posterior wall of the vagina. This movement involves widening of the upper third of the vagina, and some shortening of the whole tube. This latter result is due to folding down of the walls of the vagina upon each other in such a manner that a puncture through the middle of the cervix would wound them in two distinct spots both anteriorly and posteriorly.

In the second degree, in describing the curved line which connects the superior and inferior straits of the pelvis, the axis of the womb changes to correspond with that of the inferior strait as it glides downward to occupy the vagina, reaching its outlet. The long diameter of the organ becomes nearly horizontal, its fundus being directed towards the lower third of the sacrum, whilst its cervix looks forward under the pubic arch. The situation of the womb is influenced to a considerable extent by position; in standing, for instance, it becomes more vertical, making its cervix look directly downward. It is also modified by the shape of the pelvis, and the length and curvature of the vagina. In persons in whom the vagina is short and straight, congenitally, its descent is almost vertical. In this degree of prolapsus the vaginal walls are completely reflected on themselves, giving the entire uterus a double covering.

The third degree of prolapsus is the complete protrusion of the organ. When this occurs, the vagina is turned completely inside out; the womb may hang to the full length of that tube, sometimes reaching midway the thighs, and having a single covering. That portion of the vacuum created in the pelvis behind it, which is not filled by the rectum and bladder, contains the small intestines and their appendages; whilst without, the natural coating of the procidented womb and vagina becomes so changed as to acquire the appearance of the external skin. Procidentia of the womb exists in two varieties, the reducible and irreducible.

Mechanism and Causes.—The healthy uterus is so lightly attached within the pelvis of a human female, that the surgeon may, without preparation, seize and bring its cervix within the range of his operating-knife. Still, when in a normal state, it has ample power to maintain its erect position,

amid all the varying circumstances and positions of the woman. The sources of this power are various. In regard to the cavity in which it is placed, constituting a part of its contents, the non-gravid uterus appears as a small inverted cone, located near the apex of a large inverted cone. The contractile diaphragm is the base of the latter, the muscles of the perineum its apex, whilst more than two-thirds of its lateral walls are formed of the elastic muscles of the abdomen. By this arrangement the forces to which it is exposed, likely otherwise to displace it, are so distributed, as, in fact, it would appear, to aid in poising it in the pelvis. All forces from above rebound from the elastic perineum, and the womb, by its pyriform shape, thus presenting an appropriate and more extensive surface for their reception, receives them in a manner admirably tending to its support and steadiness. It cannot be shown that the ligaments of the uterus, or its attachments to the rectum and bladder, have any positive influence in its support against prolapsion.

It is, then, the loss of healthy power in the apex of this great abdominal cone which creates prolapsus uteri. When the muscles of the perineum cease to rebound, then the organ becomes a prey to the forces operating on it from above. Before proceeding farther, the intervening connection of the uterus, with the point where these forces are felt, must be examined. This is the vagina, through which organ it must pass in its descent. Though described as a tube, the vagina, in the healthy state, by the coadaptation of all its sides, presents a solid column beneath the womb. This power of thus coalescing it must lose, therefore, before the womb can be prolapsed. This relaxation may be created by the want of resistance of the perineum. When its muscles no longer antagonize the diaphragm, the womb is pushed on the vagina steadily, until it, at length, yields. In this case relaxation ascends from the perineum to the vagina. But exactly the reverse may, and does, occur. Disease of the womb, and other causes, may relax the vagina first; which relaxation is finally communicated to the perineum and its adjacent muscles. Obviously, in the latter instances the result is facilitated by the shape of the vagina. Women who have a short and straight vagina are more liable than others to prolapsus, and created in this way. Such women, if married, are the frequent subjects of disease of the cervix, from, I think, mechanical contact arising in coitus; which disease, by its influence on the general health, and otherwise, induces prolapsus in the manner just described. Women in whom the vagina is long and curved are protected against the production of prolapsus in this way, and are in general but little, if at all, liable to that form of displacement. The history of prolapsus uteri sustains this view of the mechanism of the displacement. It is in the exercise of its peculiar function, particularly in parturition, that these subjacent supports of the womb are injured and weakened; and childbearing, therefore, is the most prolific source of prolapsus uteri. Statistics prove that a large majority of all the cases of prolapsus originates in labour. Many sufferers from the disease retain re-

membrance of an exact period during childbirth when they believe the injury occurred; and such always refer the sensation to the perineal and anal regions.

Next to parturition, abortion most frequently lays the foundation of the disease, and then the menstrual period.

The starting-point of the displacement is often created by dancing, falls on the perineum, leaping, &c., during the catamenial flow. Women with a shallow and capacious pelvis, and a short and straight vagina, may have prolapsus very easily excited by any cause likely to suddenly depress the diaphram; particularly when predisposed by a recent labour, abortion, or by menstruation; as violent laughter, or protracted fits of coughing.

Certain employments act as exciting causes of prolapsus. When the disease occurs in virgins, it is excited by employment very frequently. They are forced to maintain the erect posture, and at the same time exercise the arms, by lifting heavy weights, for instance, in such a manner as to force down the diaphram with sudden violence. Market women, who bear heavy weights, are frequent victims to the disease.

These views of its mechanism so clearly indicate what are likely to be the predisposing and exciting causes of the disease, that it is deemed unnecessary farther to specify them; and I therefore pass on to the consideration of what may be called the organic cause of prolapsus uteri.

When speaking of its mechanism, I alluded to the manner in which it is caused. It was then said that the relaxation of the vagina and perineum, without which no prolapsus could occur, sometimes began above, in the uterus itself, and descended. The disease in the uterus creating such a state is chronic inflammation, hypertrophy, and ulceration of its cervix and os. It has been explained that the increased weight of the cervix in these cases pulls the os downwards. I am rather inclined to attribute the influence of the diseased cervix in creating prolapsus in this way to the debilitating effect it has on the vagina first, and then through the general system on the perineum. The swollen, inflamed, and ulcerated cervix debilitates locally and generally, and this creates its descent. In such cases, however, the prolapsus is always only in the first degree. The swollen cervix merely descends through the upper third of the vagina, and when it reaches the posterior wall of the organ it stops. Such displacement, if continued, is then followed by two opposite states; the cervix is turned backwards or retroverted, and the body of the organ is thrown forward. Dr. Bennet very plausibly attributes the arrest of the organ at this point to a lodgement against the lower third of the sacrum. I believe, in cases favourable to its production, that these displacements would in time go on to complete anteversion of the organ. The forces from above, by operating on the fundus of the womb, thrust it downwards and forwards; and if there was the requisite curvature of the sacrum, I think they would ultimately lift the cervix and expel it into the hollow of that bone, when the whole organ would become horizontal. As it is, however, in conformity with

the most usual state of the female pelvis, there is only produced a slight exaggeration of the natural inclination of the uterus, and, finally, a retroversion of its cervix. This is a very common form of prolapsus, and is important, inasmuch as it requires special treatment, differing from the other varieties of the disease.

The womb may also be forced down by the development of disease in it, or in its adjacent parts. Scirrhus, polypus, and fibrous tumours are the diseases of the womb most usually associated with a prolapsus, which they create. Ovarian and other abdominal tumours, exostosis, and other diseases of the pelvic bones are the morbid states of its environs, which may create prolapsus of the womb.

Local Symptoms.—It will be entirely unnecessary to point out the local symptoms, which are the result of prolapsus of the uterus in its second and third degrees. An exact history of them can be of no advantage to the practitioner, inasmuch as the disease giving them origin is apparent—its existence is already known to the woman herself. With regard to prolapsus in the first degree, the case is different. This may not be suspected by the patient on the one hand, when it exists; whilst, on the other, she may labour under an impression that she has such a disease, when it does not exist. Weak and relaxed women, whether married or single, are subject to morbid sensations within the pelvis, which simulate prolapsus uteri, and which are speedily removed by rest and tonic treatment. It often becomes a question with the practitioner as to the propriety of making vaginal explorations in such cases. In consequence of this, and the delicate nature of the disease, this form of prolapsus is allowed, in a large majority of cases, to run on for an indefinite length of time. The general or constitutional symptoms, hereafter to be described, frequently beginning with it, are the most prominent in such cases. It is for their relief that advice is most usually sought. In such a state of things the history of the local symptoms becomes important. Then it will appear that there are pelvic sensations, which, upon inquiry, the patient will express. These generally consist of a sense of weight in the fundament, pain and weakness in the back, a feeling of heat and tension about the uterus, dragging sensations in the groins, bearing-down pains, tenesmus, and vesical irritation.

All such symptoms are aggravated by exertion, excitement, and by the approach of the catamenial flow.

The functions of the uterus are perverted. The menstruation is disordered, variously; it is often profuse, and too frequent, or it may be very scanty and too seldom. In bad cases, accompanied by much ulceration and hypertrophy, there will be sterility. A great many of these cases have their beginning in labour. The woman, after bearing many children in quick succession, will suddenly stop, and date the origin of all her symptoms from her last confinement.

Leucorrhœa is a constant symptom, and is most frequently of a yellow tinge.

Diagnosis.—The diagnosis of prolapsus is not difficult. The difficulties likely to arise will so readily suggest themselves to the practitioner, that it is not deemed necessary to prolong our article by specifying them. The means to be used are the touch and the vaginal speculum; the latter instrument being only necessary in the investigation of prolapsus in the first degree.

Retroversion and Anteversion.

Nature and History.—It is preferred to describe these two forms of uterine displacement together. By so doing, nothing will be lost in perspicuity, whilst much will be gained in an avoidance of useless repetition.

Retroversion is that form of uterine displacement in which the organ is turned over backwards, in such a way that its cervix is fixed behind the pubic arch, whilst its fundus is made to rest in the hollow of the sacrum.

In no form of displacement except inversion is there so great a derangement of the normal relations of the organ. It is a very common disease; next to prolapsus, it is the most frequent way in which the unimpregnated uterus becomes misplaced.

Anteversion, at least as the term is here used, is a displacement which is the reverse of retroversion. In anteversion, the fundus uteri rests on the bladder against the pubic arch, whilst its cervix is raised upwards and backwards in such a way as to look into the hollow of the sacrum, making the longitudinal axes of the organ horizontal.

The natural inclination of the womb, as has been already shown, is slightly forward, and there are numerous cases with but an exaggeration of this normal condition, described already as prolapsus in the first degree, which are very frequently mistaken for anteversion. It is, in my opinion, this error which had led some writers to believe that this is a frequent form of uterine displacement. As we define it, this is not the case; it is a very rare disease when compared with retroversion.

Version of the unimpregnated uterus, particularly retroversion, most usually presents itself to the practitioner as a chronic disease. This is to be accounted for, in a great measure, by the vague and unsatisfactory character of its early symptoms, and the natural delicacy of its victims, which is a barrier to that freedom of investigation readily applicable to all other diseases.

The early symptoms are generally confounded with those arising from temporary disorders of the uterine functions, to which all women are, more or less frequently, liable; even when threatening, practitioners themselves do not always insist upon vaginal explorations, at least not until after other measures of relief have failed. The acute symptoms, therefore, are generally allowed to subside before the true cause of them is ascertained, and the displacement continuing, is thus left to exert its chronic influence on the general system of the woman. There is another reason why this displacement is so

often allowed to become a chronic malady. Neither retroversion nor anteversion necessarily produce severe symptoms at their onset in all cases. This is so true, that some have contended that this form of displacement is hardly a disease requiring especial treatment. (M. Paul Dubois.) Such cases are due to causes which are gradual in their operation. They, and even those which begin by inducing marked and urgent symptoms, may, therefore, exist for a long time. I have at this time a case of retroversion under treatment, the history of which would go to show that it was of fifteen years' duration. In this there is nothing inconsistent with the nature of the disease; its tendency to a grave result is not rapid, and after it has become chronic, the symptoms are not always distressing. It is true, the patient is never free altogether from some local disturbance; she cannot exert herself with impunity, and her menstrual periods are apt to be disordered and painful; yet her sufferings are not so constant or so severe as to lead her to believe that amendment may not occur without treatment. The delicate nature of the disease, in many cases, leads her to suppress her feelings, and to avoid complaint. Besides, her mind is apt to become diverted from the local symptoms to the general disease, which takes the precedence. In this way most cases of these diseases are allowed to go on, vacillating from year to year, until the condition of the general health calls for interference. This is the history of nine-tenths of the cases, particularly of retroversion of the non-gravid uterus, met with in ordinary practice.

It will be seen, therefore, that opportunities are not frequent for the proper investigation of these diseases in their earlier stages. This is no doubt the reason why there is so much diversity of opinion among accoucheurs with regard to their mechanism. Their early history is really to some extent unknown, and conjecture is too much resorted to in their explanation. It may be thought that these displacements come almost within the range of direct demonstration, inasmuch as all parts concerned in such lesions are very accessible. But this is not so; for we must look beyond the malposition, which is the result of an antecedent state, involving parts which, if they do admit of ready investigation, an opportunity is hardly ever allowed for its application to them, since the displacement is never anticipated. Investigations are generally resorted to only after its occurrence, hence the real starting-point is not so readily discovered.

Pathology.—The malposed uterus in both forms of its version presents great uniformity in its condition. I believe that all writers are agreed that it has associated with it a structural change, to which the term engorgement is applied. I have never seen it absent. This engorgement may present itself in varying degrees of intensity. I shall describe it in the two extreme states in which it may be found, leaving the reader to infer that it may exist in every conceivable grade between them.

It may be partial, or it may be general, involving the whole organ. In the former case, it is always seated in the dependent surface of the organ; that is, on the posterior wall in retroversion, the anterior in anteversion. To the

touch it presents a slightly raised and generally smooth, though often irregular, and sometimes lobulated surface, which is denser than the natural structure of the part, and may be exquisitely sensitive. I have often felt it in retroversion, occupying a spot on the posterior wall of the uterus not larger than an almond, with well-defined edges where it joined the healthy structures. In such cases the remaining portion of the organ, including the cervix, may be perfectly healthy and natural. Generally, however, the whole pendent surface of the uterus is involved.

In the largest number of cases which may present themselves, this partial engorgement only will be found. But it is frequently general. This state is characterized by the increase of volume in the whole organ, which increase is everywhere general. The irregular and sometimes lobulated surface common in the partial affection, does not exist in these cases. The surface of the womb is smooth, and the organ has a dryer feeling than natural. There is some increase of firmness to the touch, but this appears superficial; for, on pressure, it readily yields, as though increased elasticity existed. In such cases, the cervix is involved equally in the engorgement or hypertrophy. It has a dryish, swollen, and puffy feeling; the os uteri gapes open, so that the finger readily slips into it. Its lips may be either very firm or indurated, or they may be unusually soft and flexible to the touch. Upon pressure, the womb in such a state exhibits generally little or no morbid sensibility. I am satisfied that the extent of the engorgement is, to some extent, an index of the duration of the disease. Those cases in which it is limited and circumscribed, are comparatively recent, whilst general hypertrophy of the whole organ only occurs in cases of very long standing. How long a time is required to effect the change from partial engorgement to complete hypertrophy I am unprepared to say. Nor can I say that I have ever traced out this progressive change in any single case; yet I have seen such an advance in the extent of the engorgement from time to time, as to lead me to the conclusion just expressed. I have seen only partial engorgement in a case of two years' duration, and complete hypertrophy in one in which symptoms of the disease had existed six years. I am inclined to the opinion that the period required may vary with the circumstances of particular cases.

The course of this structural lesion is not inconsistent with sound pathological views. It begins with vascular congestion and increased sensibility; and, in accordance with well-recognized laws, such a state, if continued, tends to hypertrophy of the part; which, when established, has such an approximation toward the natural texture, as to be often without morbid sensibility.

Engorgement resulting in hypertrophy is, then, the pathological state of the retroverted non-gravid uterus. It is, in the large majority of cases, the only morbid state found to exist in the organ, when its malposition does not depend upon extraneous causes, such as tumours within the walls of the organ and similar morbid states of its environs.

Occasionally, there is superadded to it a more serious lesion. The retro-

verted or the anteverted womb may be confined in its morbid position by adhesions to the surrounding parts, involving the rectum, the bladder, or a portion of the peritoneum. The tendency to such a result is, however, not very great. In ordinary cases of simple misplacement of the otherwise healthy uterus, the inflammation is hardly ever sufficient to induce it; the character of its subjects and the nature of the parts involved are rather opposed to plastic exudation; and when it does occur, it is generally due to some unusual cause. Such cases, therefore, are rare, although all writers on the subject mention their existence. Undue relaxations of the uterine ligaments and posterior wall of the vagina are also pathological states in retroversion with a similar state of the anterior vaginal wall in anteversion. The pathological states extraneous to the organ, which result from its displacement, will be specified hereafter.

Mechanism and Causes.—Very opposite views are held by equally distinguished pathologists, with regard to the immediate cause of this form of uterine displacement. Disagreement as to the real starting-point of the disease is the foundation of the controversy. One party contends that the original fault is in the womb itself; the other attributes the displacement to conditions extraneous to that organ, which is considered more or less passive in its production. It must be a nice point, to excite such division among men equally distinguished, and with equal opportunities of observing the same lesions.

Lisfranc first originated the view that the fault existed in the uterus. He attributed displacement in all cases to the coexisting engorgement. The opposite party consider this only as a consequence of malposition, which they attribute, in general, to relaxation of the uterine ligaments, and other natural supports of the organ. I shall content myself here with only stating such facts bearing upon this question as have come within the range of my own observation. It is contended that the uterus becomes active in causing its own version, either forwards or backwards, by the increased weight which is imparted to it by this morbid state of engorgement.

When this is general, it is said, a tendency is created for it only to descend in the natural course of the vaginal outlet; and, when partial, it then becomes diverted in the direction of the engorged surface. Retroversion is attributed to engorgement in the posterior wall of the organ, anteversion to that of its anterior wall. This view, especially with regard to retroversion, is thought to derive support from the state of the womb during pregnancy, in the early months of which that deviation often occurs. In this case, the displacement is said to be due to the natural development, which, in consequence of some resistance anteriorly by the pelvic environs, is, at that period of gestation, greater in the posterior half of the organ.

There are certainly objections to the exclusive adoption of these views of the mechanism of this form of uterine displacement. Dr. Bennet, one of their most ardent supporters, admits, in his work, that farther investigation is necessary to their complete confirmation. It is, I think, justly objected that

the increase of weight in the engorged womb is not of itself sufficient to effect the result. I have myself seen it exist to a very limited extent in well-marked cases of the disease. Indeed, whilst I admit that this engorgement is a necessary phenomenon in retroversion, yet I am equally satisfied that proof is wanting to show its existence in the organ anterior to the displacement. The advocates of this view have failed to prove a direct connection between engorgement as a cause, and the displacement as a result. I am not aware that any one has pretended to anticipate either form of version, by first showing an engorged uterus, posteriorly or anteriorly, and then tracing the progress of the displacement from that point. It is true, it may be urged that this may be only owing to the want of opportunity, inasmuch as we have already remarked that the condition of the uterus is hardly ever made the subject of an examination prior to the occurrence of the disease.

But, on the other hand, direct proof can be adduced to sustain the contrary proposition, that engorgement may follow a displacement of the uterus. I have frequently witnessed examples of this. A familiar one is furnished in flexion of the organ. The pendent surface of the fundus uteri, in permanent flexion, often becomes the seat of engorgement, which will disappear and then return, and which of course can have no connection with creating the malposition. The supervention of such a state is generally the cause of most of the distress attendant on some forms of flexion. I have frequently seen it arise, and under proper treatment disappear, in a case of anteflexion of the womb which has been under my observation for many years. The organ too, in this case, is the undersized womb, of Dr. Oldham, and I have no doubt but that the lesion of position is also congenital.

Another circumstance which would seem to argue against the pre-existence of engorgement in versions of the uterus, arises from the fact that this may greatly disappear without being followed by a corresponding return of the organ to its normal position, a result which I have witnessed. The history which we have given of the progress and extension of the engorgement, after the displacement has been found to exist, also is opposed to the view that it creates the displacement.

I think upon the whole that the weight of testimony is in favour of the view that engorgement and subsequent hypertrophy of the uterus are generally only consequences of displacement of the organ. In cases where it appears in the fundus of a permanently flexed womb it has been attributed, I think justly, to the mechanical disturbance of the healthy venous circulation, preventing the free return of the blood from the under surface of the organ. I cannot see how this same view, with equal plausibility, may not be applied to the explanation of its induction in versions of the organ. Nor is this all; its abnormal position exposes it to friction, mechanical pressure from its environs, and other causes, certainly favourable to the production of hyperæmia and local congestion.

I will not say, however, that engorgement is not a frequent cause of version

of the uterus. I only object to the exclusive view of the part it is thought to play in its mechanism. Such a morbid state of the organ is liable to debilitate and impair the tone of the whole uterine system, and it is in this way that I believe it acts to bring about the displacement. It is by its general influence, rather than by any particular direct method, that it operates; and, therefore, I consider it only as a predisposing cause of all such deviations. By this, then, it will be seen that the fact is recognized; that, in this way, a displacement may have its beginning in the uterus itself. In treating of prolapsus in the first degree, I have explained how such a morbid state of the womb operates in predisposing to its own displacement.

On the other hand, accoucheurs, in my opinion, equally involve themselves in error when they attribute the mechanism of this form of displacement to faults exclusively in the exterior appendages of the uterus. Dr. Meigs's theory has the merit of being very lucid and extremely convenient. It is only to suppose that the longitudinal position of the non-gravid uterus is maintained exclusively by the round ligaments, and that these are too short in anteversion, and too long in retroversion. The proper function of these ligaments is certainly not clearly defined. That they perform some part in maintaining the natural position of the womb is suggested by the fact that they are absent in quadrupeds. But the exclusive view of their use, held by Professor Meigs, is not supported by the general views of other pathologists in regard to their functions. A satisfactory objection to it is furnished in the naturally peculiar distensibility of all the so-called ligaments of the uterus. We have already intimated that version of the uterus is necessarily preceded by a morbid mobility of the organ, which clearly may be due to relaxation, not only in the appendages of the womb but also of its environs. It would appear from the above facts that both of the parties engaged in this controversy are to some extent right, as the displacement may have its origin in either source, the uterus or in its appendages; and, on the other hand, that they are both equally wrong in attributing the lesion exclusively to either the one or the other source. They are contesting, indeed, about phenomena, which, to say the least, play but parts in the whole mechanism of uterine version.

Some antecedent morbid mobility, from whatever cause it may arise, must be, it would appear, the first step in the production of either form of version of the non-gravid uterus. This same pre-existing condition is also necessary to prolapsus. One woman, with a movable uterus, will get a simple falling; another, either retroversion or anteversion. The two latter, however, be it remembered, are much the less common forms of disease.

It would really seem from this, that there must be some existing condition which regulates the form of displacement. Such an assumption is, in my opinion, not without strong grounds to warrant it. We have elsewhere said that a short and *straight vagina* is commonly associated with prolapsion, and I have never seen version of the uterus, in either form, that was not accompanied by an unusually *long* and *curved* vagina. This variation of the vagina

is interesting as being an index of the pelvic conformation; in the former case it indicates a shallow pelvis, short and straight sacrum; in the latter, a deep pelvis, with a long and greatly curved os sacrum.

Women who are the subjects of version appear to carry the uterus higher up than usual, and they are most usually tall and thin in person. I have long been of opinion that a peculiar pelvic development had much to do with this form of uterine displacement.

The conditions which I think I have observed in it, and which appear to be in some degree necessary to the existence of version, are, first, an unusually long, curved, and strong vagina; second, an unusually high and deeply curved os sacrum; third, unusual protrusion of the sacral promontory over the superior strait.

The mechanism of these different conditions is to be explained in this way. The firmness and peculiar shape of the vagina, supported by the resistance of a healthy state of the perineal muscles, steady and secure the womb against a downward tendency, thus leaving the elevated and free fundus to the full play of all forces coming against the organ from above. Ordinarily these forces, if sufficient to displace it at all, would move the uterus downwards; but, in this case, they are made to receive a peculiar direction by the intruding sacral promontory. By this condition, the successive and other forces from above are directed quite over the fundus, lying beneath and somewhat under it, and must fall therefore against the anterior surface of the organ. This brings into play the last condition which we have mentioned, the deep sacral curvature, which, by furnishing the space in an opposite direction, enables this force readily to turn the whole organ backwards. Ordinarily, the small intestines float over the fundus uteri, and around it, filling, particularly, all interstices between it and the sacrum; but in the state of things just described, these are liable to fall over and lie against the anterior surface of the womb, thereby becoming, by their pressure, a force tending to retrovert the organ.

The bladder, in its varying conditions, assists to induce this same result. When it is empty, it admits space for the superincumbent intestines to press in the same direction, and, when filled, its own force is directed on and against the anterior part of the fundus.

In order that these views should be fully understood, I must again recur to the part which the vagina plays in the mechanism of version of the uterus. This firmness which has been attributed to it, and upon which depends the prevention of the descent of the cervix, without which retroversion could not occur, is due in a great measure to the increased length and curvature of that organ in these cases. Anatomists tell us that the posterior and lateral parts of the vagina are inserted into the soft and distensible parts, but the anterior and part of the antero-lateral walls are firmly attached to the pubic arch. Now, for the vagina to be both long and curved at the same time, it is obvious that this increase must be greatest in its posterior wall; hence the curvature.

In this state of things, it is not unreasonable to suppose that its anterior wall may be in a different state from its posterior wall, and that, in short, the two may act antagonistically to each other. Something like this appears to take place in the mechanism of retroversion, from its earliest stage. The posterior wall yields first just below its attachment to the cervix, and then gradually gives way farther before the descending body and fundus, whilst the anterior remains firm, so much so that it has to be considerably stretched backwards before the womb can take the position of complete retroversion. The fault seems to be in the inability of the posterior vaginal wall to maintain its integrity equally with its anterior wall. Were the latter to yield correspondingly, plainly there would be only prolapsion.

I am aware that some, often considerable, descent of the organ is frequently found associated with retroversion. So far from considering this a necessary state, I am inclined to attribute its occurrence, in every case, to subsequent causes. I think I am justified in doing this, from the fact that I have often encountered retroversion when it was unaccompanied by any such state. I have found the proper length of the vagina anteriorly so well maintained that it was difficult to reach the cervix with the index-finger, and I have often had to straighten the curve in the uterine sound before it could be brought within range of the os. When, too, the womb is reposited in such cases, it takes its true position as regards its height in the vagina, and exhibits no tendency to descend abnormally.

When I come to speak of treatment, it will be farther seen how important a feature this greater curvature, and the consequent weakness of the posterior vaginal wall becomes in the whole history of retroversion.

But the perineum also plays a most important part in the mechanism of retroversion. By supporting the vagina, it assists to fix the cervix, and hence allows the forces from above to be directed against the fundus. So far from being relaxed, as in prolapsus, I have seen it in a persistent state of spasm in retroversion.

In regard to the mechanism of anteversion, the circumstances which regulate it must be in some, although in a slight degree, the reverse from retroversion. The pelvic conformation may differ, but only in a less protrusion of the sacral promontory; but there is the same length and curvature of the vaginal tube. In its production, the cervix must also become the pivot on which the organ turns in its forward projection; but in this case it is the anterior vaginal wall which is at fault. I apprehend that, owing to weakness, and perhaps some distension of that part of the anterior vaginal wall which connects the bladder and cervix, the organ first descends to the posterior wall. Here it meets with resistance either from it or its subjacent structures, and, the forces from above still acting, these gradually separate the womb from the bladder by stretching the intervening attachment, until the fundus is allowed to fall forward behind the bladder to rest on the anterior roof of the vagina. Corresponding to this change in the fundus, the cervix, at the same

time, first pushes itself upwards and then backwards, a movement which it could not perform except in cases in which the depth and curvature of the sacrum were sufficient to admit it. In this position, the longitudinal axis of the uterus is horizontal, and in it there evidently exists, either preternaturally or otherwise, unusual length in the anterior vaginal wall, with a greater than natural separation of its cervix from the posterior wall of the bladder.

I am inclined to the opinion that the production of anteversion is generally gradual. The disease, as has been stated, is very rare, and opportunities for its investigation have not been so frequent as is desired, in order to express conclusive opinions in regard to its mechanism.

Whether the above views regarding the mechanism of uterine version be correct or not, it is certain that it is created by the same exciting causes which are known also to produce prolapsus. The exciting causes of the two deviations may, indeed, be described as the same. Whatever tends suddenly and violently to force down the diaphragm, may, therefore, excite version; and excessive laughter and continued spells of coughing are common as its exciting causes. Menstruation predisposes to the disease, and exertion during its existence often excites it.

All writers mention a loaded state of the bowels as a cause of the disease. The modern style of dressing, by compressing the abdomen, may tend to increase the power of the natural forces which produce retroversion. This, together with the relaxing habits of modern women, may account for the greater frequency of all such diseases in recent years.

When the fundus uteri, from any cause, is fairly started in either direction, by encroaching on the rectum on the one hand, and the bladder on the other, it establishes a new force in the vesical and intestinal tenesmus, which rapidly hastens the consummation of its complete displacement. I am not sure that vesical tenesmus, long continued, like that arising from an uncured urethral gonorrhœa, may not itself bring on the disease in cases favourable to its production.

I have seen a case of retroversion in a young non-childbearing woman, which the patient attributed to straining to evacuate the bladder, to which she had been subject for many years. Having stated their probable mode of action in creating the result, it will be unnecessary to mention particularly any other exciting or predisposing causes of uterine version, since there will be readily suggested to the reader all others likely to act in the same way.

Local Symptoms.—On glancing at the malposed uterus in either form of version, it must appear evident that prominent symptoms are likely to be created by the direct contact of the organ against two important outlets of the body, viz., of the rectum and the bladder. Functional disturbances, therefore, of both those organs, are common symptoms in this form of uterine displacement. Inasmuch as these symptoms are liable to much variation, not being equally intense in all cases, and not always equally severe in the same case at all times, some notice is necessary of these peculiarities, and the cir-

cumstances which tend to create them. In most cases of retroversion and anteversion, vesical and rectal tenesmus will be prominent, and generally severe symptoms from the very beginning of the disorder. For obvious reasons, the two are most apt to be combined in retroversion. I have seen them both continued unabated from day to day, for a period of two years, in the latter disease. Yet this is not always the case, and it is well to remember that retroversion and anteversion may be present, and yet the patient may not, all the time, be troubled with either symptom. It is true, in every such case she will remember that they have been present, and, moreover, will generally know that any unusual exertion, either by standing or walking, will be sure to bring them on.

The origin of these symptoms is due to direct mechanical pressure, and they are liable to vary with the amount of irritability of the organs encroached upon. It must be evident, therefore, they are apt to be most severe in the early stages of the displacement, and that, after the lapse of sufficient time, it is not unreasonable to suppose that the organs pressed against may so far accommodate themselves to the compression as to lose much of the irritability created by it. Should the displacement come on very gradually, the same state of things may result, and the patient never suffer severely from either symptom. I have met with just such cases. The amount of suffering from either symptom depends very much upon the individual. An irritable woman will suffer intensely and persistently from a very slight deviation of the womb, either forwards or backwards, whilst one of a lax muscular fibre, and of the lymphatic temperament, will hardly complain, although affected with a greater displacement.

It will be seen that these symptoms are modified: 1st. By the duration of the malady. 2d. By the manner of its production, as to whether sudden or gradual. 3d. By the peculiarities of individual constitution.

Some guide to the practitioner, as to their connection with version in either form, will be furnished by the direct influence of exercise, which generally increases them when they exist, and most usually develops them when they are absent. The effect of the menstrual period will often aid in giving an additional clue to the same thing. At such a time, the irritability not only of the womb, but of its environs, is greatly increased, and I have always observed that women who are the victims of either retroversion or anteversion, have the symptoms which arise from their bladder and rectum aggravated by the catamenial flow. Of the two classes of symptoms, those which originate in the rectum are, in the history of any particular case, the sooner apt to subside, and also to disappear the more completely.

Besides tenesmus, there are other important symptoms in retroversion, which arise from the functional disturbance of the rectum. A sense of obstruction to the passage of the feces generally exists. The patient is conscious of a loss of power in their discharge. This may arise from direct mechanical pressure and obstruction from the intruding fundus uteri; or it

may be due to an apparent paralysis of the rectum. In the former case, the feces are discharged with great pain, and are often flattened, and, when soft, ribbon-like; in the latter case, they are only voided after great difficulty. Hemorrhoids, accompanied by profuse bleeding, often coexist with this form of uterine version.

The vesical symptoms hardly ever disappear entirely in either retroversion or anteversion. In the latter disease, the patient is scarcely ever free from a sense of pressure against the "water-passage." The urination in both diseases may be very variously disturbed. In some cases of retroversion, the urine may be well retained and voided without either pain or difficulty; yet, in a few minutes after the act, an aching sensation will be established about the neck of the bladder, lasting several hours. I believe the difficulty arises, in such instances, from the contact of the urine itself against the mucous membrane of the upper vaginal wall, which is stretched backwards and often persistently fretted and irritated. The same symptom is often associated with difficulty in retaining and voiding the urine.

The urination may be deficient and painful in both retroversion and anteversion, or there may be complete suppression, or again, inability to retain the urine. The urinary symptoms in these cases are generally worse at night, and I have observed that they are aggravated by constipation, and always more or less relieved by enemata which clear the rectum. The mechanism of a loaded rectum in such cases is apparent, and I think useful hints may be derived as to the origin of such symptoms in a misplaced uterus by the directly salutary effects of fecal evacuations.

Other disturbances of the functions of the pelvic and lower abdominal viscera are liable to be created by the pressure and the distortion of the misplaced uterus in both forms of version.

The misplaced fundus in retroversion often presses on the sacral nerves, and gives rise to numbness, and occasionally loss of motion in one or both legs, but generally the left. I have seen a lameness due to this cause alone, which had existed for many years, misunderstood and treated for rheumatism, and which was immediately and permanently relieved by elevating the fundus. Hence I consider this to be an important symptom, and although from its mechanism it might be supposed to be persistent, yet it may, like the other symptoms just referred to, vary in intensity at different times in the same case, and from the same reasons. It will be modified by any cause likely to either diminish or increase the local irritation and congestion, and such causes arise in the variation of the habits and health of the woman, as in the case of the vesical and rectal symptoms.

In its descent, the retroverted fundus may involve one of the ovaries, so that by its pressure inflammation may be created in that organ. Dr. Rigby, who first pointed out this result of retroversion, says it is by the long continued effects of the displacement, and that the left ovary is the one always involved. These organs are also influenced by the displacement in another

manner. By the long-continued strain upon the broad ligaments, and perhaps by some obstruction to their returning circulation, the ovaries are always more or less irritated in both forms of version. The uneasiness which this state usually creates is generally felt in the left ovarian region; it is sometimes, however, located in the right side. The greater liability of the left ovary to manifest its irritation is very plausibly attributed, by Dr. Simpson, I believe, to its contiguity to the rectum, where it is more exposed to irritation, from the varying condition of that organ.

The stretch upon the peritoneum, which is necessary in either form of uterine version, always creates a train of local symptoms, which, like the others mentioned, are more or less persistent according to circumstances. Among these are a sense of tension and uneasiness around the lower abdomen, and in the groins; and a want of tone in the muscular action of the intestines, giving rise to flatulent accumulation and permanent distension of the bowels. A consciousness of weakness in all the pelvic apparatus attends these displacements. Such patients have a weak and painful back, often complaining of pain in sitting and rising, and always suffer after walking and standing.

The functions and vital conditions of the uterus are variously deranged and perverted in both retroversion and anteversion.

We have elsewhere spoken of the disorder in its sensation, and the circumstances which regulate it, and need not recur to it again, except to mention that uterine heat and pain are generally felt by the woman herself in most cases of the disease. Professor Simpson mentions that in some rare cases an absence of sensation is exhibited by the uterus, and I have seen such cases myself.

Sterility is, in my experience, almost invariable in both retroversion and anteversion. Authors, however, by mentioning them as causes of abortion, do not seem to adopt this view. I have not only found my patients sterile, but have generally had them to confess to the absence of all sexual desire, and that coition, if not painful, was unsatisfactory. Leucorrhœa, from obvious causes, always attends these diseases; liable, however, to similar variations with the other symptoms, according to the circumstances and condition of the woman.

The disorders of menstruation are very various. All the existing local symptoms of the disease, as I have already mentioned, are aggravated during the period. I have generally found profuse menstruation only in recent cases; in very chronic cases it is almost always scant, pale, and deficient. The amount of pain felt at such a time varies with particular women; as a general rule, it may be said the catamenial period is always unnatural and distressing, in both retroversion and anteversion.

Diagnosis.—Although the local symptoms which have just been detailed are amply sufficient to fix a morbid state upon the uterus, none of them, nor all together, are sufficient to point out the exact nature of its disease with any degree of certainty.

It would appear that the symptoms particularly, which so obviously arise in the rectum and the bladder from both retroversion and anteversion, ought at once so plainly to point out these displacements that the practitioner might confidently rely upon their presence to indicate the disease. But such is not the case, because both classes of symptoms are liable to appear in other affections. Of the two, the symptoms originating in the rectum are to be relied upon with more certainty, with regard to their indication of the presence of retroversion. They however may, and sometimes do mislead, inasmuch as they can originate from other causes, two of which it is thought necessary to briefly specify. They may arise from stricture of the rectum; and most surgeons assert that that disease is more common in women than in men. I believe, however, that the danger is precisely opposite. Retroversion is far more frequently treated for stricture of the rectum. Chronic dysentery may possibly be confounded with the symptoms of retroversion originating in the rectum. Here, again, the reverse is most apt to be the error fallen upon. I have seen in one case retroversion treated for many months for chronic dysentery; the coexisting vesical irritation which was present being attributed to sympathy with the diseased intestine. Such mistakes occur with regard to hemorrhoids, which are often treated as primary affections, when they are exclusively due to the pressure of the misplaced fundus in retroversion. The same thing may be said with regard to certain forms of anal hemorrhage which occasionally results in the disease.

All the vesical symptoms are totally unreliable as means of judging with regard to the presence of either form of uterine version, because they not only exist in other forms of deviation, but generally attend on most functional diseases of the uterus. There is but one certain method of establishing satisfactorily the existence of either retroversion or anteversion of the non-gravid uterus. This consists in the direct examination of the womb, per vaginam, per rectum, and sometimes through the bladder with the catheter. This examination does not require the uterine speculum—for obvious reasons this instrument cannot expose this disease—it is performed with the touch, and when insufficient, by certain other means and instruments, which will be named as I pass on.

Before detailing the method of this examination, it will be necessary first to point out what the accoucheur has to beware of in the diagnosis of retroversion and anteversion. We shall first speak of the morbid states, which may be confounded with retroversion. These may have two sources—they may arise from disease in the uterus itself, or from disease in the environs of the organ. Mere mention of most of them will be all that is necessary. The conditions of the womb liable to be confounded with retroversion are—

1st. Pregnancy, in its early months. We have already alluded to the increased posterior development of the uterus in the beginning of gestation, and it is this state which creates the danger of misconception.

2d. Fibrous tumours of the posterior wall of the uterus. This is an ex-

ceedingly common morbid state of the non-gravid womb. Retroversion is moreover frequently coexistent with it.

3d. Carcinoma of the uterus.

4th. Post-parturient hypertrophy.

The diseases of the environing organs liable to create embarrassment in the diagnoses of retroversion are: 1st. Ovarian tumours in their early stages.

"When," says Professor Simpson (*Dublin Quarterly Journal*, May, 1848), the ovary enlarges from multilocular degeneration, or other causes, it almost always first grows downwards into the space lying between the back wall of the uterus, and the anterior part of the rectum, resting thus upon the roof of the vagina behind. In its enlargement, it almost invariably pushes the uterus anteriorly, and before it, and this relative position of the uterus to ovarian tumours is often an important matter in the diagnosis of ovarian disease in its later and more advanced stages. At first, the body of the enlarged ovary may be mistaken for the retroverted fundus uteri, more especially as the os uteri is generally displaced forwards."

2d. "Pelvic-cellulitis." Inflammation of the pelvic cellular tissues, either with or without suppuration, may be limited to a spot between the uterus and rectum, where it may present a firm tumour, simulating retroversion.

3d. Extra-uterine conceptions, lodged between the uterus and rectum.

4th. Organic disease in the anterior wall of the rectum.

5th. Strangulated vaginal enterocele.

I have seen a case of vaginal enterocele, in which a knuckle of intestine, filled with hardened feces, had fallen between the non-gravid uterus and rectum, where it became strangulated. The inflammation which resulted, and the fecal ball lodged against the roof of the vagina, and other circumstances, conspired to produce an arrangement of parts very similar to that above described as occurring from ovarian disease, and which certainly created doubt, at first, in regard to the existence of retroversion.

In the diagnosis of anteversion, there are not so many sources of difficulty. Fibrous tumours in the anterior wall of the uterus should be borne in mind in investigating it.

I am not aware that any condition of bladder, against which it rests, or of the anterior vaginal wall, is likely to constitute a state liable to interfere in the diagnosis of this form of displacement; although it is said that, in examining the bladder, the fundus of the anteverted womb may be mistaken for an encysted calculus.

When he understands the means of testing for retroversion or anteversion, the reader will readily perceive how all mistakes, likely to arise from any of the conditions just mentioned, are to be avoided.

Before going into the tactile examination, it is necessary that the bladder and rectum be first emptied. The position of the woman may vary with the choice of the practitioner; I prefer the post-dorsal, because I have found it the most convenient for all the various manipulations. In retroversion, when the index, in the usual way, is passed into the vagina, it is first arrested by

the body of the organ lying athwart that canal. The point usually first touched is just below the cervix and body, which, when there is much engorgement, feels very much like a tumour or other extraneous body. To reach the cervix, the finger must be elevated quite up to the pubic arch, and to examine the fundus it must be carried downwards to the perineum. Frequently, its descent is arrested half-way; the body of the organ, and its fundus, cannot be reached; either because it is too high, or because it is buried in the vagino-rectal space, quite into the intestine. The anterior wall of the vagina will be found stretched backwards, and often sensitive, and the posterior relaxed, bagging down before the fallen fundus. By a little manipulation, the finger may be passed around the cervix, so as to bear it forward, and in some cases, which are accompanied with a slight descent of the womb, it can be made to touch and elevate the fundus. To the touch the cervix uteri presents itself very variously in different cases of retroversion.

As we have already described the different states of the os uteri in this affection, it is not necessary to repeat here what we have stated in treating of the pathology of version.

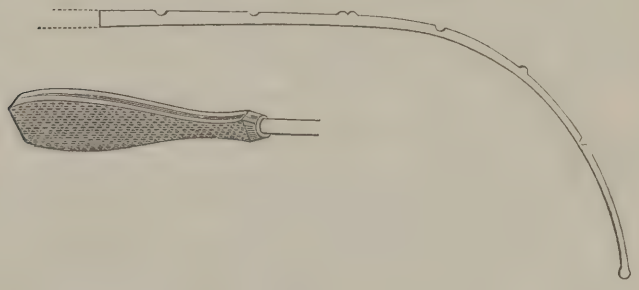
In some cases the uterus in retroversion is quite movable, and, by effecting its reposition, all doubt about its diagnosis is removed. In such cases, this is to be effected by first pressing up the fundus, and then by making steady pressure, downwards and backwards, against the anterior part of the cervix, previously dislodged from behind the pubis. By pressing the left hand over the pelvis, in very thin women, the absence and presence of the fundus may sometimes be detected. But such satisfactory results cannot be generally arrived at by mere tactile examination. As has been elsewhere remarked, the vagina is always longer in women who are the subjects of this disease, and the uterus is generally too high up to manipulate to advantage.

When, as is often the case, the true position of the fundus uteri cannot be defined through the vaginal touch, then recourse can be had to an examination per rectum. In this way the approach to the organ is more direct, and the finger can be carried much higher in the pelvis than through the vagina. Through the walls of the intestine the fallen fundus, in retroversion, can be readily felt, and often easily moved; and, if replaced, it may be sufficient to establish the nature of the disease, without farther trouble. But this cannot always be done, and doubts may exist as to whether the tumour felt be really the fundus uteri. It has been recommended, in this state of things, to conduct an exploration through the bladder and the rectum at the same time. This is performed by first introducing a catheter into the bladder, then the finger is passed up the rectum beyond the suspicious tumour. By a little manipulation the catheter can be brought to touch the finger, which it could not reach if the uterus was erect and intervening.

But by none of these methods are satisfactory results always obtained. Before the introduction of his uterine sound, Professor Simpson, with all his experience, confesses that he failed in the diagnosis of retroversion, and often

confounded it with tumours of the uterus. This instrument, therefore, furnishes us with invaluable aid in the exploration of this form of uterine displacements. It is a safe method, and the only certain one in the diagnosis, particularly of retroversion, under many circumstances. It is an instrument which is used with great facility, and saves much needless exploration; that per rectum, always a disagreeable operation to both patient and practitioner, is, with it, hardly ever necessary. As the instrument and the manner of using it are both familiar to the profession, although recently discovered, I shall content myself with but a brief notice of it.

Fig. 1.



Simpson's Uterine Sound (½ Nat. size).

The idea which led to the discovery of the uterine sound, originated in the very wants it is intended to supply. Before, as we have just remarked, it was often difficult to decide upon the direction of the uterine fundus; and, in order that he might be enabled to solve this difficulty, Dr. Simpson determined to invade and ascertain the direction of the uterine cavity, as a certain guide to it.

The instrument (see Fig. 1) has the configuration of a slender male catheter. Its tapering and curved extremity is rounded and knobbed; the depth of the uterine cavity, two and a half inches, is marked on its convex side; its handle is smooth on the posterior and roughened on its anterior surface.[1]

[1] The normal length of the cavity of the healthy uterus is two and a half inches, and at that point the bougie is marked, as seen in the figure, by a single elevation, or knob, which can be readily felt when the instrument is under use, and at once advertises the practitioner that it is introduced the whole length of the uterus.

When the uterus is hypertrophied, when enlarged with fibrous tumours, &c. &c., the cavity is elongated, and the degree of its elongation can be easily measured by the bougie. There are two elevations upon it, at four and a half inches from the point, in order to enable the physician to take his measurements easily without withdrawing it. Elsewhere than at two and a half and four and a half inches from the point, there are depressions and grooves at inch distances for the same purpose. In cases in which the uterine cavity is diminished in length by inversion, &c., the bougie equally en-

To introduce the sound in the healthy womb, it must be carried upward and forwards, in the direction of the umbilicus, until its point is arrested by the top of the uterine cavity. Its concavity, indicated by the rough side of the handle, being upwards, is then directed towards the symphysis pubis. When within the retroverted womb, its position is precisely opposite, its point is directed backwards and somewhat downwards, and its concavity, and the rough side of its handle, looks towards the sacrum.

In retroversion, therefore, the instrument cannot be passed beyond the cervix without changing the direction of its point, which is easily done by simply turning the rough side of its handle downwards. (See Fig. 2.)

It is sometimes difficult even to enter the os without first making this change; it cannot, in many cases, be done without previously drawing the *cervix forward*.

Fig. 2.

Diagram showing the Uterine Sound within the womb in retroversion, and its position when in the healthy womb; and also how it must replace the organ when its concavity is turned upward. *a*. Retroverted Uterus. *b*. Uterus replaced. *c*. Vagina. *d*, *d*. Uterine sound. *e*, *e*. Rectum. *f*. Sacrum.

In testing for retroversion, the instrument, after entering the os in the usual way, must be gently turned as its progress becomes obstructed. Often it passes quite into the uterine cavity before its reversion is completed. I prefer, in cases where it is suspected, passing the sound into the vagina with its concavity downwards; in this way it can be more readily made to enter the os. There is often some difficulty in this when the cervix is very high

ables us to ascertain that point. The whole length of the stem is nine inches. It is represented in the figure as bent in the curved form, in which Prof. Simpson generally uses it; but, being made of silver, its bend can be readily changed, increased, or diminished, to suit different cases and indications of use.—*Simpson, in Dublin Quarterly Journal*, May, 1848.

up; and instruments of varying degrees of curvature are necessary to meet the demands of all such cases. The passage of the sound in the direction indicated, is satisfactory evidence of the existence of retroversion. But the great advantage of the instrument does not cease with this; we have then complete control over the whole uterus; and, if any doubts exist, we have only to insert the finger into the vagina or rectum, then gradually turn the sound, when the suspicious tumour will be felt moving upwards with it. Having once replaced the fundus, we can readily bring it down again; we can, in short, make assurance doubly sure by making and unmaking the displacement at pleasure.

Having the use of the sound, no one need labour under any doubt regarding the existence or non-existence of retroversion.

It shows conclusively the direction of the uterine cavity; and, when the instrument is passed to its proper mark within the womb, with its concavity looking upwards towards the pubis, it at once separates the idea of retroversion from any suspicious mass located between the vagina and rectum, where are to be found most of those states liable to be mistaken for it.

The diagnosis of anteversion is usually not attended with difficulty. By the touch, the fallen fundus can readily be felt pressing down the anterior wall of the vagina; whilst the reversed cervix and os, lying in the hollow of the sacrum, is with difficulty reached with the indicator. By raising the fundus and bringing down the cervix, this displacement can be readily rectified; and, when this is done, there can be doubt no longer in regard to its true nature. The sound is not always required in its diagnosis; when it is, the hints given above regarding its use in retroversion will readily suggest its method of employment in this affection.

Flexions of the Uterus.

Nature and History.—The proper method of recognizing this disease in the living subject is a recent discovery. In 1843, Professor Simpson introduced his uterine sound, by means of which he was enabled to separate flexion, as a distinct form of uterine displacement, from all other deviations with which it had been until then most generally confounded. At first, the statements which were made as regards its frequency were not credited. The improved means of diagnosis, however, soon convinced accoucheurs that they had, as was stated, overlooked the affection, and that it was a frequent form of uterine deviation; as frequent, according to Dr. Rigby, in the non-gravid as retroversion is in the gravid uterus.

In its history, flexion partakes of the character of version of the organ, and when not discovered and obviated in its earliest stages it may exist for years without calling for especial treatment until its influence upon the general health demands interference. The disease is most usually established when it comes to the notice of the accoucheur. Its general effects are the same with version, varying somewhat in not being so universally serious. In occasional

cases its presence may not be felt, and its existence may be only known by its consequences, which are, generally, sterility, ovarian disease, and dysmenorrhœa.

In true flexion, the womb is bent on itself at a greater or less angle, so as to impart to the organ the shape of a retort.

Materially differing from version, its cervix, when examined in the living female, is found normal in position. It is in the body and fundus of the organ that the deviation exists.

In flexion, there is always some slight descent of the womb.

In anteflexion, the fundus is bent forward so as to rest on the bladder against the symphysis pubis.

In retroflexion, it is turned backward, imbedded within the anterior wall of the rectum to lodge in the hollow of the sacrum.

Partially lateral flexions also exist, and are more common than similar deviations are in version of the organ.

In these cases the diverted fundus lies to the side, most generally the left, in the direction of the sacro-iliac junction. The point at which the organ is most usually found bent on itself is the upper third of the cervix near its junction with the body, and the angle is more or less abrupt. It may, however, involve the entire cervix and a greater part of the body of the organ, and then there is a greater curvature in the flexion.

Mechanism and Causes.—The natural texture of the uterus is flexible, and its cervix in a healthy state can, at pleasure, be turned in any direction; the cause of its permanent flexion, and its pathological state, are questions of great interest. It may be a congenital fault. Most writers recognize faulty development as a source of the disease. It is occasionally, indeed, a malformation. In a case which has occurred in my practice, the long and abnormally flexed cervix was permanently fixed upwards by a sort of frænum, formed, as I believe, by a fold in the vaginal membrane. In this case, it should be remarked that the state of the uterus has never given rise to particular local symptoms. The woman is sterile, and suffers only with ovarian irritation and painful with disordered menstruation. But such cases constitute but a small proportion of those met with. In the large majority of cases the flexion is a morbid state, which has had its origin since the beginning of the menstrual period. When from any cause the fundus uteri, in any direction, is forced downwards, so that it is flexed on its cervix, this flexion may become permanent in two ways. In the first place, the parts involved in the flexion may, from long-continued pressure, become atrophied. There is an actual loss of substance in the uterine walls, in this case, which renders them too weak to allow the organ afterwards to erect itself. Such flexions are easily redressed, they are never fixed; the fundus can be raised with the finger, and the folded point of the cervical walls will rebound outwards, but the fundus will descend and its walls will fold up again on the removal of the pressure. The angle

is sharp in these cases, and the flexed point appears to the touch as a mere crease or fold within the part, and is very abrupt.

In the next place the flexion may become permanent, and yet there may be no loss of substance within the uterine walls. On the contrary, such cases are accompanied with hypertrophy, indicated by increase of firmness if not volume of the part. In such cases a morbid action of an inflammatory nature is established, and a slow interstitial deposition occurs, which moulds the cervix permanently in the form in which the bend originally was created. There is unusual density and firmness of structure indicated by the touch, and the flexion is less abrupt and more curved. Such flexions cannot be redressed at all in many cases. Pressure on the fundus removes the whole organ, so it does when employed against the cervix. To be effectual, it must be simultaneously made against the cervix and fundus. The onset of this form of uterine flexion is attended by severer symptoms than the other. It begins in acute inflammation of the cervix, which by degrees becomes chronic, leading to the interstitial change and hypertrophy.

The state of the uterus most favourable to these changes is that immediately succeeding labour. During the existence of the post-parturient hypertrophy, the womb is not only more exposed to causes likely to depress its fundus, but being in a transition state, it can then be more readily moulded into a morbid shape. Most writers on the subject have referred the beginning of the largest majority of cases coming to their notice to parturition. Next to labour an abortion most readily prepares the uterus to assume the flexed form. Abortion is the cause of the disease, and it is often the cause of abortion.

But the disease is not confined to childbearing women. It often occurs in virgins, and women who are married, and yet have never borne children. In such, it is the menstrual period which creates the predisposition in the womb to assume a state of flexion. The vital activity of the organ at such a time renders it impressible to all influences likely to establish this change in its configuration. I believe that one or the other of these predisposing conditions is necessary to the production of this deviation. There must either be a recent labour, an abortion, or the menstrual condition, or it is not liable to be excited. Wtih these conditions, the causes likely to produce it may be pointed out. Before mentioning them, however, attention must be called to a state greatly facilitating the operation of the exciting causes of uterine flexion. This is a deep and capacious pelvis. The fundus uteri must be somewhat elevated, and there must be great natural freedom in its motions, in order that it may be influenced by the exciting causes of this deviation.

With this state of things anything tending to depress the fundus, either suddenly or gradually, may create the disease.

Dr. Denman, the first English author who has described flexion of the uterus, traced its occurrence in a case to the pressure of a full bladder on the fundus succeeding labour. The urine was retained both before and for some time after delivery. Velpeau accounted for the existence of many cases of

the disease in this way. It must appear evident that anything tending to depress the fundus after confinement may leave the womb in a flexed condition. The same thing may be said in regard to abortions. After such an accident, flexion may be induced by falls, leaping, by violent laughter, much coughing, or by any successive force from the diaphragm. All these influences operate upon the womb in the same way during the catamenial flow.

The following interesting history of a case, obtained from an intelligent lady, points out such an origin of the disease. During the second week of her marriage, and whilst menstruating, she ran violently up a steep ascent and then down again; in doing so, she suddenly felt "something give way" within the pelvis, became faint, and with difficulty reached home. Severe pelvic pains with fever came on, attended by suppression of the menses, which lasted several weeks. Her case was treated as one of acute metritis. Her severe sufferings gradually subsided, but she remained an invalid, troubled all the time with painful sensations in the pelvis, and a constant pressure against the "water-passage." Eight years after her first attack, these symptoms all the time continuing, she came under my care, and, upon examination, I found anteflexion of the uterus, which had become permanent, owing to atrophy of the anterior cervical walls involved in the flexion.

Local Symptoms.—These resemble very much those arising from version of the organ. Indeed, they are so nearly allied to them, not only in their manifestations but their origin, that it is deemed altogether unnecessary to specify them. The reader having acquainted himself with the local symptoms of version, as given when treating of that displacement, will be prepared to have suggested to him all those likely to arise and indicate flexion of the uterus. It is preferred to occupy the space for them by alluding to some of the consequences of flexion in the non-gravid uterus. *Engorgement* of the pendent surface of the fundus is the common result of flexion. In the early stages of the disease, I apprehend that the two are always associated. Its origin is thought to be due to the arrest of the venous circulation within the organ, which arises mechanically and otherwise. This engorgement, however, may in time subside. I believe that the organ is, generally, prepared to maintain its circulation properly by a new arrangement of its forces after the long-continuance of a state of flexion. If it were not so, how can we account for the existence of the disease when congenital, and unaccompanied by engorgement? After its perfect subsidence, the flexed fundus is readily liable to become engorged. Much exercise or any local disturbance of the uterus will create it. But as a general rule engorgement, and often hypertrophy, of the pendent surface of the fundus are found associated with flexion, and it may be sensitive or not, according to circumstances.

Ovarian irritation, and often chronic inflammation, of these glands, are generally found as the results of flexion. Their origin, in such cases, is most probably the same as in version of the womb.

Dysmenorrhœa is a result often peculiar to flexion of the uterus. This

variety of the disease corresponds with that described by McIntosh as dependent upon the preternatural narrowing of the cervical canal. This narrowing is the mechanical result of the flexed cervix. It may occur in both forms of permanent flexion, as heretofore described, viz., where the flexed walls are wasted, or where the neck is kept bent permanently by a state of hypertrophy. I believe it is more common in the former condition. The cervical canal is in it more liable to obliteration by the pressure of the fallen fundus, which bears the thinned cervical walls inwards against the opposite side.

In the latter state, the integrity of the canal is most generally maintained. The interstitial change is guided by the original mould of the uterine neck; although it may, and often does, encroach upon the canal.

But in all cases of flexion where dysmenorrhœa exists, it cannot be traced to this source. Indeed, in the state of the ovaries and the uterus itself there are other sources of painful menstruation, equally palpable, in many cases, with the narrowing of the canal.

Besides dysmenorrhœa, the menstrual functions are otherwise disordered, and very variously, in different cases of uterine flexions. As in case of version, I have found flexion most usually associated with sterility, and there is generally a relaxed and debilitated state of the sexual system with leucorrhœa.

Diagnosis.—The same conditions of the organ and its environs interfere with the diagnosis of uterine flexion, which have been described as complicating that of version. In order to separate it as a distinct affection, the practitioner has to proceed in the same way and by the same means as when examining for uterine version. He must not be misled by finding the cervix in its normal position. This is an error into which many have fallen. The cervix uteri is often high up in this form of deviation, and when the flexion of the fundus is behind or backwards, touching the vagina in some cases can give no indication of the presence of the displacement. I have found in such cases the only indication of the disease to be furnished by the increase of space in the anterior and upper part of the vagina. From the absence of the fundus, the finger is allowed to pass freely backwards and laterally to a much greater extent than in the natural position of the organ, which would arrest it. I have been enabled to suspect the presence of retroflexion by this condition, when no trace of the fundus could be felt in the posterior part of the vagina, because the finger was not long enough to be carried backwards to it. In anteflexion there is much less difficulty. The fallen fundus can be readily felt bagging down the anterior wall of the vagina, and the finger may be carried from the os backwards, so as to trace the point of flexion with great distinctness. Still, I have known perfect integrity in the position of the cervix to mislead as to the existence of anteflexion.

It is by the use of the uterine sound that all doubt regarding the existence of the disease is to be solved. By means of it, we can both detect and readily rectify the bend in the shape of the organ.

In anteversion, the sound must be introduced as though the womb was in its natural position. It will be promptly obstructed at the flexed point, when, by gently carrying the handle of the instrument downward in the direction of the sacrum, it will pass up in the fundus. The handle must be then raised, and the torsion will be rectified, and the whole organ properly placed in the pelvis. Where the bend in the organ is firm from hypertrophy, there is not usually more difficulty in passing the sound; in some cases not as much, in consequence of a preternatural open state of all the cervical canal.

In retroflexion, the sound has to be introduced in the cervix in the usual manner, and when it reaches the obstructed point it must be reversed, the rough side of the handle downwards, and at the same time slightly raised by elevating the handle. In this way it passes into the uterine cavity, indicates that the fundus is misplaced backwards, and, when it is reversed so as to bring the rough side of the handle uppermost, then the organ is rectified in shape and reposited normally.

The value of this instrument, after what has been previously said, need not be referred to here. I will only add that it has been used in the diagnosis of this affection in my practice, and almost daily, and yet I have never seen any morbid consequences arising from it that were not slight and temporary. Ordinarily, the use of the instrument produces no inconvenience whatever.

II. *The Constitutional Effects of Displacement of the Uterus.*—It has been already stated, owing to their frequent misconception, and to some degree of obscurity inseparable from their earlier symptoms, that many forms of uterine displacement are allowed to run on until they become chronic affections, before they are brought to the notice of the medical practitioner.

They are, then, most usually attended by a train of exceedingly distressing, varied, and complex constitutional symptoms. Remote organs appear to be prominently affected; severe symptoms, by mere sympathetic influence, are developed in distant parts of the body, which often have precedence in the minds of the sufferers over the primary disorder. It is a matter of the highest importance to be enabled to understand these symptoms, and to trace them to their true source. The gravest mistakes are of daily occurrence with regard to them. Severe local treatment is often employed, and persisted in, for symptoms which are not due to disease in the part or organ which manifests them, but to the sympathetic influence of a misplaced uterus. The general ill health, the functional disturbance of the nervous, digestive, and circulatory systems manifested in cases of the disease, are apt exclusively to engross attention. Too much stress, therefore, cannot be laid upon a point of so much importance, and I shall endeavour to point out the general symptoms which are excited by displacements of the uterus, and to explain their connection with these maladies.

The sympathetic affections which arise in the course of pregnancy, furnish

familiar examples of the extensive influence which the uterus exerts upon the whole system of the female.

During gestation, the functions of many important organs, and that of the whole cerebro-spinal system of nerves, are liable to be disordered and perverted. The morbid sympathies of the diseased uterus bear a close analogy to those arising in the organ from the irritation of pregnancy. They are just as extensive, as varied, and as complex, and moreover bear a close resemblance to them in other particulars. Dr. Simpson, in his admirable *Lectures*, cites the influence of the pregnant uterus on the general system, not only to prove how varied are its sympathies, but also to show, by the different ways these, though springing in all cases from precisely the same cause, are manifested in different women. This, he forcibly shows, is exactly the way with the diseased organ; precisely similar local diseases in the uterus hardly ever exert the same constitutional symptoms in two different cases. Since the diseased organ has such a wide range of action in which to exhibit its influence upon the general system, all of its effects require to be particularly noted, in order that we may understand them satisfactorily.

The constitutional effects of displacement of the uterus can be properly arranged and described as those: 1. Affecting the nervous system; 2. The digestive and assimilating system; 3. The circulatory organs.

It must be remembered that many of the general symptoms we are about to designate as being the result of this cause, may likewise spring from other forms of uterine disease, in which there is no displacement. To our present inquiry this fact is interesting in this way: it serves to prove conclusively the correctness of our reference of these symptoms to the cause specified. It shows that tumours within the walls of the organ, enlargement, or indeed anything which destroys the normal relations of the uterus with its environs, will, like its malposition, create constitutional disorders.

1. *The Sympathies of Uterine Displacement as affecting the Nervous System.* —This is by far the most important class of constitutional symptoms which uterine displacements create.

When treating of the local disorders which they induce, certain nervous phenomena were then mentioned as their usual symptoms, varying with particular displacements. These were just such as would be the result of the direct mechanical pressure of the malposed organ. They were physical in their character. The class now to be described are different; they are due to reflex action; the local irritation within the uterus, in a manner not necessary to be described, being transmitted through the spinal cord, to be felt in other and often in distant parts.

The physiological law governing this action is universally recognized. It is not only in accordance with the received views of pathology, but it is confirmed by many other instances of similar morbid action in other diseases. Of these, the pain reflected to the knee-joint in hip disease is an apt and

familiar example. The action of this law enables us to explain the varied and extensive nervous phenomena often accompanying displacements of the uterus. The morbid organ, through the spinal cord, is brought into connection with every part of the system, and all who have had much experience in these affections, know that there is scarcely any part of the body which may not become the seat of local nervous derangement. I have often seen this nervous disturbance move from spot to spot, in the same individual, in a very short time; and I have seen the moving of the uterus relieve it, entirely in some cases, in others change its location. Severe headaches are often relieved by the sudden translation of the pain to the pelvic region; and the very reverse as frequently occurs. I believe that there is not a link wanting in the whole chain of testimony in regard to the references of such nervous phenomena in women always to uterine disease.

A set of symptoms so extensive and so liable to vary in individual cases, of course it is not to be expected, if indeed it be necessary, can all be enumerated in detail. I shall content myself with only specifying the most common and prominent; and dwell particularly upon such as, from their severity and marked character, are liable to be mistaken for original diseases in the part in which they occur.

Those manifested within the neighbourhood shall first be noticed. Besides those nervous symptoms existing in the pelvis which we have elsewhere detailed, there are others which are to be classed among the reflected symptoms.

Vesical irritation is one of these; it is a symptom common to every form of uterine disease, either temporary or persistent. In version of the organ in either of its common directions, and in prolapsus in some of its stages, it is due to mechanical irritation; but in retroflexion, in prolapsus in its first degree, and in many other uterine disorders in which it appears, it cannot always be referred to that cause. This is the reason why this symptom is so unreliable, as specifying any particular condition of the organ. It may and often does exist in all morbid states of the uterus, and, when not purely mechanical in its origin, it is a reflex of the uterine irritation to the neck of the bladder.

The vagina, as has been stated, is usually relaxed to a morbid degree in most forms of uterine displacement, and there is, generally, if anything, an absence of normal sensation in its coats. But this is not always the case. Occasionally, the most exquisite sensibility is imparted to every part of the canal, from the labia up to the cervix uteri. I have seen cases when the introduction of the finger was so painful as to induce syncope, and have learned that coitus was accompanied by like result. Such cases are very rare, but they are met with; the condition being the result of uterine displacement; and are examples of the morbid sympathy of the uterus, reflected through the spinal cord to the part affected.

Many of the pelvic pains in uterine displacement belong to this class of

nervous symptoms, such as pains along the crest of the ilium above the pubis in the sacro-lumbar region, along the groins and down the thighs. A very distressing symptom, belonging to this class, which is occasionally present, is a pain located at the termination of the os coccygis. The constant uneasiness felt in the ovarian regions, most commonly in the left, is a symptom having in most cases a similar origin. It is often accompanied by chronic inflammation in that gland, as has been already mentioned.

Morbid sensibility of the skin of the whole abdomen frequently exists in uterine displacement. Some degree of tympanitis is also more or less common in these affections, and the two symptoms together form an assemblage which might lead to the belief that acute peritonitis existed. Dr. Meigs describes this state as a simulated peritonitis, and it is mentioned by most writers. I have seen it follow the introduction of the uterine sound, and have frequently had it occur in cases of chronic retroversion, soon after the organ had been replaced. The tenderness is often extreme, so that the patient will not permit the skin of the abdomen to be touched without a shriek. A similar painful and tender spot is often located on some one of the spinal vertebræ, and many a woman has had her spine blistered and pustulated, under the erroneous impression that spinal irritation existed, when she was only labouring under uterine irritation reflected to the skin of the part.

A constant pain in one or the other side, just under the edges of the ribs, originating in the same way, is found to attend on many cases of displacement. I have seen it in the right, when it was attributed to and treated for hepatic disease; but it most usually presents itself in the left side. This pain is often the source of great anxiety to the patient, not because of its severity, although at times it may be quite severe, but on account of its persistency. It often excites the apprehension in the mind of the patient that the heart is diseased.

Dewees mentions this symptom. It is often referred to a single spot; or it may be described as occupying the whole space along the lower edge of the ribs. I have seen it extend up among the intercostal spaces, so as greatly to annoy in respiration. It does not, however, exhibit always this latter condition. It is often unaffected by the motions of the chest, even in coughing or sneezing. One or both mammæ are often rendered painful and sometimes tumid, from sympathy with a misplaced uterus. Pain and some degree of retraction in the muscles of the back part of the neck I have, as often as any other symptom, found attendant on uterine displacement, particularly retroversion. The patient describes it as a "drawing" in the back of the neck, accompanied by soreness and pain.

Many forms of headache exist in the disease under consideration. That which I consider as most diagnostic of uterine derangement, if not of displacement, is a pain located at the top of the head. Most headaches common in these affections are partly due to vitiated general health, but this one I consider as a genuine sympathetic pain from uterine disease, which may occur,

and often does in women whose general health is unimpaired. It is a pain which suggests pressure on the spot, for its relief, and is often accompanied by a feeling of coldness in the affected part. I have seen this form of headache instantly relieved by moving a misplaced uterus. Neuralgic pains all over the scalp are common in these affections followed by tenderness of the surface. Pains in the limbs and joints not unfrequently signify uterine displacement. I have frequently seen it accompanied with a numbness in one thigh down to the knee. The skin is often the seat of remarkable nervous manifestations, in cases of uterine displacement; the state of morbid sensibility already referred to as located on the abdominal surface, may appear in other parts of the cutaneous surface. A morbid condition, as it regards its temperature, particularly about the extremities, is almost universal. Cold hands and feet are always complained of in these affections. To the touch they are icy; in some cases they cannot be made to feel warm by artificial means.

Cough is a sympathetic symptom often created by uterine displacement. It must in such cases be referred to morbid nervous action reflected to the diaphragm. Its peculiarities are its loudness, its spasmodic character, its tendency to disappear suddenly and to reappear suddenly without obvious causes, and its freedom from expectoration. Still, its long continuance in a case should not be without exciting some apprehension of disease within the lung. We know that many of the subjects of uterine displacement are just in that condition most favourable to the development of phthisis, and that that disease often steals upon the practitioner unawares. Whilst I recognize the existence of a purely sympathetic cough in the class of diseases under consideration, yet I think there is greater fear of mistaking organic disease of the lung for it than the reverse. I have seen this mistake made by eminent accoucheurs who thought that exact physical exploration of the chest was unnecessary, inasmuch as the symptom could be explained by the condition of the uterus. I would always advise that the state of the lungs be particularly inquired into in such cases I am satisfied that sympathetic uterine cough may coexist with organic disease of the lungs, and by examining the latter, serious errors in prognosis, as it regards the tendency of a cough in such cases, may be avoided.

The motor nerves are often disturbed in a remarkable degree in these affections. Often, there exists spasmodic twitching in the groin, the leg, the eyelid, and the abdominal muscles. In some cases, paroxysms of severe spasms in the general muscular system are frequent; in others a more chronic state, resembling chorea, will appear. I have seen the heart similarly involved in intermitting spasms, creating great alarm and anxiety in the mind of the patient.

Before detailing the mental characteristics of this class of uterine diseases, I will proceed to sketch briefly the remaining constitutional disorders common to them, inasmuch as they appear equally involved in their production.

2. *The Sympathies of Uterine Displacement as affecting the Digestive and Assimilating Functions.*—Depraved digestion and functional disturbance of the bowels sooner or later appear in all cases of uterine displacement. This latter symptom generally manifests itself from the beginning of the disease. In some respects, as we have elsewhere stated, it is due to local pressure of the misplaced organ. A constant condition, which the patient hardly ever fails to dwell upon in giving the history of her complaint, is preternatural enlargement of the abdomen. It is often the source of great anxiety, since it is considered as a state having some connection with the deep-seated neuralgic pains in the part. It is obviously the result of gaseous accumulations within the intestines from the derangement of their free and natural movement due to the displaced uterus. In early pregnancy, something of a similar state exists when it is no doubt due to a similar cause arising then in the natural increase in the volume of the organ.

The function of the lower portion of the intestinal canal, particularly, seems to be impaired in these diseases. Constipation most usually exists, yet in many cases there is a remarkable susceptibility to cathartic medicine. I have seen morbid relaxation of the bowels accompanying displacement; but constipation is by far the most frequent condition. This symptom generally persists and continues, resisting all systems of dieting or medical treatment which may be adopted for its removal. The dyspeptic symptoms usual in these diseases are those which arise from atony of the stomach.

In some cases, however, there may exist complete perversion of the digestive functions, and then acidity of a peculiar and remarkable character will exist. Everything swallowed, even a cup of tea, will return, so acid as to affect the teeth on touching them. This state of the stomach, with regard to its acidity, is certainly peculiar to uterine derangement. The stomach disorders will vary, in these cases, with the state of the local symptoms. A hearty meal, before or following exercise, or any course likely to increase the local distress, will invariably bring on disorder of the stomach and general sickness, ending in severe nervous headache.

The function of the liver is often disturbed, in cases of uterine displacement, by sympathetic action. Dr. Simpson mentions that, in some such cases, this disorder requires special treatment for its relief, which will not follow the removal of the original cause of it. Instead of being increased, the hepatic secretion is more frequently diminished; the liver is torpid and inactive.

The urinary secretion undergoes remarkable changes in this disease. In the same case, it varies often both in quantity and quality several times during the same day. Its change from perfect limpidity and great profusion to scantiness with sediment is often rapid.

The vitiated state of the function of these important organs seriously interferes with the nutritive and assimilating processes. General ill-health sooner or later follows, indicated by great feebleness, wan complexion, and sometimes

a sallow skin, liable to become affected by different cutaneous eruptions of a scurfy nature.

A peculiar state of the tongue sometimes accompanies these diseases. The surface of the organ presents clean and red patches in a groundwork of white fur. Without being entirely denuded, the red parts appear cleaner of the ordinary fur than usual, giving the surface a variegated appearance.

3. *The Sympathies of Uterine Displacement as affecting the Circulatory Organs.*—After the first stages of these maladies, the inflammatory condition is seldom sufficient to give rise to fever, or other constitutional excitement of the circulation. Writers, however, speak of hectic as being the result of uterine displacement. I apprehend that when this does occur, it is due always to accidental circumstances. The production of such a result is not in accordance with the usual history of such diseases.

The combination most frequent which creates hectic irritation is pelvic cellulitis ending in suppuration. Organic disease of the misplaced uterus, or when established in its environs, may, from their long persistence, give rise to the same state of things. As a general rule, the circulation is not disturbed by inflammatory action, but it is most usually greatly disordered by a state of the system directly its reverse.

The capillary vessels are particularly liable to derangement in these diseases. Every one is familiar with the peculiar flushing in the face coming on without emotion or any other obvious exciting cause, which some women exhibit when suffering under uterine complaints. There is a feebleness in the organic forces which control these vessels, in some instances, which is very remarkable. I have seen a common sinapism, when allowed to remain only long enough to be felt, induce ecchymosis, which threatened to end in sloughing of the part. In such cases, the direct application of strong stimulants, the patients themselves have found upon experience, will prevent such a result.

Anæmia, with all its attendant disorders of the circulatory apparatus, is an exceedingly common condition in the victims of these diseases. It is, however, not universal, although there is usually a morbid state of the blood, which might be justly termed the uterine cachexia.

In this detail of the general constitutional effects resulting from uterine displacement, of course it is meant to be understood that all, or even a majority of the particular symptoms mentioned, is not likely to appear in any single case. It has been shown how the morbid state of the organ acts to induce them, and how wide and extensive is its field of operation; hence, it is easy to perceive that its constitutional manifestations must vary according to the circumstances of each particular case. We have the authority of Professor Simpson for stating, and it corresponds precisely with our own experience, that there is no rule by which we can judge what series of these general symptoms a particular form of uterine disease will develop. He has asserted that no two women, who are locally diseased precisely alike, are likely to manifest the same constitutional disorders. Nor is the sequence of these symptoms,

with regard to each other, any more accurately suited. Generally, however, in the early stages of these diseases we have the circulation disturbed by the severe local distress and the nervous phenomena excited. When these have continued long enough to vitiate and impair the digestive system, more extensive derangement of the whole system follows, and the mental characteristics before alluded to begin to show themselves in a more settled form. The mental and moral condition of women, suffering from uterine displacement, constitutes a peculiar feature in their history. The character of such patients undergoes a complete revolution. From being bold and confident, they become shrinking and sensitive, shunning company. The morbid impressibility of the nervous system becomes extreme; the daylight is distressing, and the slightest noise distracting. They soon lose all power of resistance in regard to even the least impression of a disagreeable character. They are overcome by the slightest annoyance The least contradiction will create general nervous derangement, often violent paroxysms of hysteria. Their attendants soon find this out, and, in their dread of its consequences, study how to avoid all such impressions. These women are usually found petted and humoured, and this is the reason of it. It grows out of the necessity of their condition. Feeble, relaxed, incapable of exertion, denied in many instances, all outdoor exercise, they become a prey to morbid fancies and painful sensations of every kind. The slightest unusual feeling, such is their vigilance over their sensations, is at once construed into a grave and alarming disorder. To relieve this state of feeling many resort to the use of narcotic drugs, opium or some of its preparations, which ultimately plunge them into new sources of distress, and still farther deteriorate their general health.

This condition sometimes ends in insanity and often results in a state of mind little short of it. Many women, whom I have seen, have spent the best years of their life in a state like that just described, and one of their chief sources of distress often arises from the want of sympathy, which persons who are not constant spectators of their sufferings exhibit towards them.

The value of the constitutional symptoms of displacement of the uterus in their diagnosis requires some consideration. From what has been already said it will be seen that they point out a morbid state of the uterus, and nothing more. They serve, as Professor Simpson remarks, to locate the disease, but not to specify its character. Nor is there any correspondence between their severity and that of the disease in the uterus which gives rise to them.

It is by comprehending their connection with a local disease in the uterus, that the practitioner is placed in the right path to their successful treatment, inasmuch as this calls for an examination of the organ itself.

Treatment.—The treatment of uterine displacements is comprised in the general and local. The former has for its end the restitution of the general health; by the latter, two objects are sought to be obtained—first, the removal of structural changes and other morbid states of the organ; second,

the correction of the malposition. The local treatment is fundamental; without it no permanent relief can be gained by any treatment directed to the general and constitutional symptoms. Their judicious combination, however, is necessary to progressive and rapid recovery. The value of the different objects to be gained by the local treatment varies with different cases. Under some circumstances the removal of the lesion of position is often the best means of treating the local derangement of the organ, whilst under others precisely the reverse appertains.

Local Treatment.—The local treatment being of two kinds, the first we shall treat of as the *organic*, the second as the *mechanical*. In regard to the former, the exclusive use of such measures as tend only to remove structural and other lesions in the uterus is applicable only to those forms of displacement which such lesions appear to begin and perpetuate.

Organic Treatment.—It is in the treatment of prolapsus in the first degree that organic treatment is most valuable. As has been said, in that deviation, it is the diseased state of the cervix, which, by acting on the vagina, and through the general health of the woman on the perineum, creates the descent of the organ. I have witnessed proof of such a view of the displacement by the salutary effects of local treatment in many cases. The palpable indication in this displacement is to remove the disease of the cervix, and treatment should be adopted exclusively with that view. These measures must vary with the nature of particular cases, and they consist in the topical application of appropriate treatment to the cervix by means of the uterine speculum. To cure the ulceration, and to subdue the induration or hypertrophy, the application of the solid nitrate of silver should be employed, and in very obstinate cases the more powerful liquid nitrate of mercury. By these means the morbid induration of the tissues is resolved; their interstitial condition modified, so that they assume their healthy state. The manner of employing these remedies need not be particularly detailed. The ulcerated or indurated cervix should be freely cauterized from time to time, allowing between the interval just so many days as are required for the separation of the slough. When the nitrate of silver is used this will be about five days, when the nitrate of mercury about twice that number. The time required in this treatment depends a good deal upon the duration of the disease in the cervix. When this is recent, only a few weeks are required, but when of long standing, accompanied by induration of the whole cervix, as many months are often necessary. The treatment should be directed to the restoration of the cervix to its normal flexibility and volume, and should not be abandoned until this end is obtained. Often, after the first or second cauterization, amendment occurs, and before the change in the cervix is complete all local symptoms, and many of the general symptoms, subside entirely.

When there is still a disposition for the womb to descend and rest on the posterior vaginal wall, after the proper treatment of its cervix, I have then found a resort to other means necessary. This is required particularly, be-

cause, in such instances, if left alone, a relapse is apt to occur. Astringent vaginal injections, often employed, are of advantage in such cases; frequently their use is all that is necessary. A more effectual method of applying astringency to the relaxed part of the vaginal tube is that recommended by Whitehead, in his admirable work on "Sterility and Abortion." It is by means of the prolapsus tube, an instrument which is figured in his work. By its arrangement, this instrument, when inserted, replaces the uterus; and upon its withdrawal pledgets of lint, soaked in an astringent solution, are left, just where the effect is required, at the very top of the vagina. (See *Whitehead on Abortion.*) The daily use of this instrument, when persevered in, will speedily overcome the tendency of the womb to descend.

By these measures alone I have conducted satisfactorily the treatment of all cases of prolapsus in the first degree which have come to my notice, aided by those general measures hereafter to be detailed. In regard to the local treatment of any morbid state of the organ occurring in prolapsus in the second and third degrees, there is but little to say. The diseased state is then most usually only the result of the malposition, and what treatment is necessary to subdue it, previous to its reposition, will be readily suggested to the practitioner.

The local treatment necessary in morbid states of the uterus in versions and flexions, should be that which is calculated to subdue the irritation in it, and in the adjacent organs, and to overcome the engorgement of the womb. For the former emollient vaginal lavements, the tepid hip-bath and anodyne enemata are required. In regard to the latter, there is more doubt, as it regards what is proper. The local and constitutional treatment usually adopted for the removal of local congestions and hyperæmia in organs, is not admissible in the majority of cases. The feeble, vitiated, and irritable condition of most women suffering from these deviations, precludes the use of antiphlogistic measures. Besides, such measures, if successful in removing engorgement, could not, from their nature, restore the malpositions; hence, a recurrence of the same state might be expected. This certainly corresponds with my experience of these diseases. I consider it, therefore, unwise to rely upon measures directed exclusively to the removal of the coexisting engorgement in version and flexion of the non-gravid womb. When associated with proper measures to maintain the uterus *in situ*, they become important, frequently indispensable, adjuncts. I do not believe that the misplaced uterus in either case tends to recovery, under any circumstances, without aid, in regard to a maintenance of its normal position. Often, indeed, such measures are absolutely necessary to secure any comfort to the patient. This brings us to the consideration of the *mechanical treatment* of uterine displacements.

The recommendation of mechanical means in the treatment of uterine displacements is coeval with the history of such diseases. It has only been in recent years that their value has been called in question, and their necessity denied. That they are often misapplied, and frequently do mischief, cannot

be disputed; yet, I am one of those who believe they are indispensable. Their opponents have never urged any measures which, in my hands, have proved substitutes for mechanical support in the treatment at least of many forms of displacement of the non-gravid uterus. This any one who has had much experience in these diseases will, I am sure, corroborate. By these means alone, in many cases, is the relief of the patient to be secured.

A great variety of mechanical contrivances are in use in the treatment of uterine displacements. I shall not undertake to describe the different forms of apparatus which are recommended; there is a principle governing their employment which I prefer to unfold. When this is known, it will be easy to see what apparatus is best adapted to particular cases of the disease. The great end to be obtained is the restoration and maintenance of the vagina in its normal proportions. It has been shown how important a part this organ plays on the mechanism of every form of uterine displacement; and it must appear that, when it is by any means supported to its proper length and height in the pelvis, displacement will be rectified. The varying conditions of the rectum and bladder, and the difficulties attending their evacuations, the superincumbent weight of the abdominal viscera, and the successive forces constantly occurring from the diaphragm, all present obstacles which have to be guarded against. It is in these that the great difficulty lies, in the way of all mechanical means adjusted to support the uterus. These influences can only be held in check and permanently avoided by acting on the vagina. But we must act on this organ alone, and not through it on the womb; and this is the advantage of the contrivance it is intended to propose. Most means in common use create direct pressure against the uterus. Now all apparatus worn for this purpose must be continued in use for a long time; hence the liability of such to do injury to the organ. This is the source of the objections which writers make against the use of mechanical agents in the treatment of uterine displacements.

The form of pessary which I have long used, and found not only beneficial but entirely free from all objection, is that recommended by Professor Hodge, of the University of Pennsylvania. The instrument consists of two lateral bars, curved to correspond with the walls of the vagina, united at top by a rectangular bar. (See Fig. 3.)

Fig. 3.

Dr. Hodge's Pessary.

This instrument lying in the vagina maintains it in its original shape, and it is by doing that alone that it proves effectual in keeping the uterus *in situ*. It operates through the vagina, and rather presses away from than against the womb. It is, moreover, not liable to derangement, and readily permits the natural functions of all the pelvic organs to be performed without obstruction. It is worn without annoyance, and can be introduced and removed with great facility. From the principle of its action, it must appear that it is calculated to replace the womb, when displaced in any way.

The principle is the only true one, in my opinion, and I am in the habit of using this form of instrument in every case of displacement where mechanical support is required. In retroversion, particularly, it is an invaluable agent; with no other have I succeeded so well in the removal of the distressing symptoms attending on that form of uterine displacement.

Its mechanism in the removal of retroversion must be obvious. It will be seen that the mere introduction of the pessary alters the position of the uterus completely. The posterior wall of the vagina is kept so distended by the back part of the pessary, that instead of yielding, as before, it becomes the seat of a force which bears the fundus uteri upwards and forwards, throwing its cervix downwards in the vagina, and keeping it there. Its mere introduction, in fact, alters the position of the uterus from retroversion to that of simple prolapsus in the first degree; and it is by the distension of the posterior roof of the vagina to its normal dimensions that the organ is kept *in situ*, and not by any force exerted against it. This constitutes the great merit of the apparatus; it completely rectifies the displacement without the danger of local injury. When well adapted to the dimensions of the pelvis and vagina, it can be worn without annoyance for months or years; and such is the signal relief which patients experience from it, that I have known them to object to its removal, long after all tendency to displacement had ceased to exist.

The caution to be observed in retroversion is to secure the full extension backward of the posterior vaginal wall, so that the long diameter of the womb should be brought to look in the direction of the umbilicus. Without this, the weight of the womb, by the swaying backwards of the organ, might rest on the hindmost bar of the pessary; in which event, its pressure then would so bear up the two lateral bars, that their anterior ends would excite irritation at their terminations under the pubic arch. This is the only inconvenience in wearing the pessary, and it is to be avoided by having the fundus uteri thrown well forward, so that its weight will sway anteriorly instead of posteriorly. This objection makes it necessary in some cases to adopt measures to lessen the volume of the posterior uterine wall before applying the instrument. The reposition of the organ by the uterine sound, and a few days' rest in bed in an appropriate position, is often all that is required for this purpose. I have given complete relief in retroversion immediately by this instrument; in cases, too, in which all other measures had failed; and after a trial of most of the mechanical agents in use, including Dr. Simpson's stemmed supporter, I give it the preference, and rely upon it in my practice.

The globe pessary, highly recommended by some, in my experience aggravates the distress in retroversion; and the ring, and, indeed, all other forms of instruments in use, besides being less manageable, are ineffectual. I have used Dr. Simpson's instrument in one case; it could not be borne, and from its effects, I am not inclined to make a repetition of its use in this displacement, although it appears so admirably adapted to its treatment. The great advantage in the mechanical treatment of retroversion, is to have an apparatus

answering the purpose that can be easily worn, and that for a long time, without endangering local irritation, and this is the merit of Dr. Hodge's pessary.

The principle governing the mechanical treatment of anteversion is the same with that of retroversion. The same apparatus may be used for maintaining the integrity of the vagina, as it regards its length and firmness, with the addition of a front bar, uniting the anterior ends of the lateral bars, in a similar manner with the posterior ends. Such a pessary appears as a parallelogram, having its lateral bars curved in accordance with the proper shape of the vagina. The use of the front bar is to support the anterior vaginal wall, making it pull against the cervix, so as to draw the fundus upwards and forwards.

Where mechanical treatment is necessary in flexions of the uterus, I recommend the same apparatus; because the indications, at least those which can be fulfilled by such means, are the same in these deviations. By steadying the organ, local congestion, upon which most of the distress in flexion depends, is removed, its recurrence prevented, and time is given for the bend in the womb to be rectified. In the case of anteflexion, alluded to in another part of this paper, I had the most signal success with the barred pessary. The patient, from being more or less bedridden, has become a strong woman, walking without annoyance, and never suffering from her womb complaints. The dysmenorrhœa has gradually been relieved, and the thinned parietes of the cervical walls, created by the flexion, have considerably filled up. She continues to wear the instrument by preference, and in time I believe the flexion will be permanently rectified. In retroflexion, from the principle upon which the instrument operates, there is a greater reason to expect decided benefit than in anteflexion, and such has been my experience.

In prolapsus of the second and third degrees, the apparatus constitutes an effectual and convenient method, as much so as any that can be devised for keeping the organ *in situ*. In bad cases its effects are much enhanced by proper perineal support. At the same time that it keeps the womb at its proper elevation, it allows of the free application of such measures as may be required to impart strength to the relaxed vaginal walls. Professor Hodge has his instruments made of silver, which are afterwards gilded by heat, and it is certainly the best material on account of its lightness and durability; yet the gutta percha furnishes an excellent substitute. I have modelled pessaries from this substance which have been used on an emergency; in cases requiring great nicety of form and arrangement, I have found it best to manufacture them of this material first, and afterwards use the model in forming the metallic one.

General Treatment.—The indications for general treatment in uterine displacements, are to *improve the digestion*, and to allay the *nervous irritability*. After appropriate local treatment, all these indications are best fulfilled by diet, exercise in the open air, and by change of scene. Proper out-door exercise

and change of scene are indispensable in many cases. One of the greatest advantages of mechanical support arises from its affording opportunity for exercise. The influence of protracted journeys in curing uterine complaints has been long observed. It is by the stimulation of the mind in having not only a succession of new impressions, but some new pleasures every day to look forward to, that this result is attained. The monotony of home is a serious bar to recovery from the nervous affections in these diseases. For these symptoms there is nothing like variety and agreeable mental impressions, and as improvement in them is generally followed by improvement in the digestive functions, advantage should always be taken of change of scene in their treatment. Residence by the sea-shore has been thought to increase the benefit arising from these changes. Certainly, systematic bathing is always valuable. The tepid shower-bath, in high states of nervous excitement, should be employed, gradually brought to cold as the patient can bear it. I use the cold shower-bath in the morning before dressing, and the tepid on going to bed. The greatest benefit arises from the systematic use of water in this way. As it regards diet, as a general rule, a plain substantial diet is best. Many cases bear well a generous diet, with porter, ale, &c.; but in others it will not be borne; when it is well borne I generally adopt it, since the indication in all these cases is to build up the general health as rapidly as possible.

The same thing may be said with regard to tonic and chalybeate medicines; when they can be used without exciting distress, their employment is generally valuable. But in many cases these agents cannot be employed. Such is the great impressibility of the nervous system, often nothing of the kind will be tolerated; a glass of wine even will induce unpleasant effects. In such cases we have to rely upon the slow and gradual influences of a well-regulated diet, bathing, and changes of scene. In cases of peculiar nervous excitability, accompanied with derangement of digestion, I will specify the nitrate of silver as being a valuable agent, given in half-grain doses daily or oftener, combined with small doses of rhubarb when the bowels are torpid. But generally the medical treatment of such cases has to be left entirely to the sagacity of the practitioner. Each case seems to require individual treatment. Certainly in all cases active medication is to be avoided; so is the protracted use of sedatives, and all other measures, palliative but not curative in their agency. It is the fault of such patients to demand relief—immediate relief—for their distressing sensations. This tendency should be guarded against; the use of narcotics and other agents which give relief, prejudice recovery; hence, their use should, in every case, be discountenanced as far as practicable. Agreeable changes of circumstances are better than anodynes in these cases. Besides the above general rules regarding the treatment of uterine displacements, there is an additional one of as great if not greater importance. Such patients, during their treatment, should abstain from the sexual congress. In the treatment of prolapsus in the first degree, this is fundamental. I have seen women with this form of displacement recover without treatment, upon sudden

separation from their husbands. It has been frequently observed that women who had been unhealthy married, become robust as widows, and after marrying again become invalids. I believe that the abrasions leading to hypertrophy in the cervical neck in these cases often begin in the abuse of coition. In the treatment of all forms of uterine displacement, this measure should be insisted upon. The sexual organs require rest to recover their healthy tone; and it is not so much the physical injury of connection that is mischievous, as it is the tendency to perpetuate and increase their state of inertia and general debility.